

ABSTRACT OF THE DISCLOSURE

A wiring metal contains a polycrystal of copper (Cu) as a primary element and an additional element other than Cu, and concentration of the additional element is, at crystal grain boundaries composing the Cu polycrystal and in vicinities of the crystal grain boundaries, higher than that of the inside of the crystal grains. The additional element is preferably at least one element selected from a group consisting of Ti, Zr, Hf, Cr, Co, Al, Sn, Ni, Mg, and Ag.

10 This Cu wiring is formed by forming a Cu polycrystalline film, forming an additional element layer on this Cu film, and diffusing this additional element from the additional element layer into the Cu film. This copper alloy for wiring is preferred as metal wiring formed for a

15 semiconductor device.